

Green Transportation Projects in North Carolina:

Private Financing Options

Presentation to
Transportation Oversight Committee
January 19, 2010

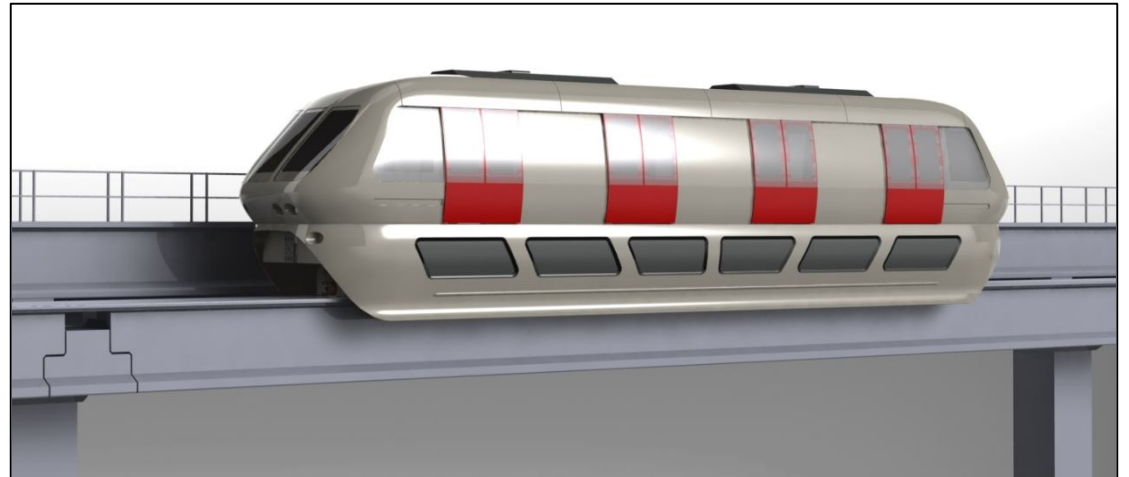
Thank You For Visiting!



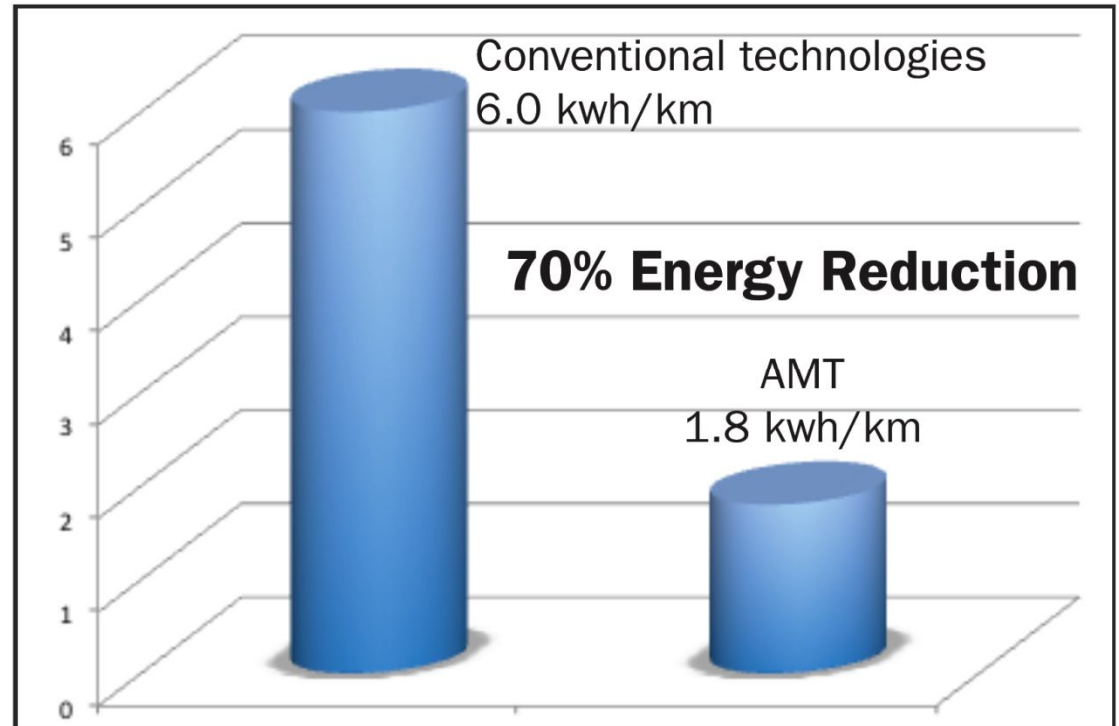
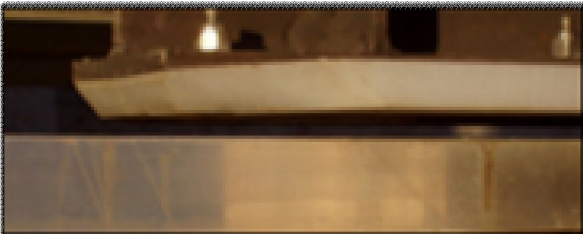
The Team



State of the Art American Technology



A Sustainable Solution



A Sustainable Solution

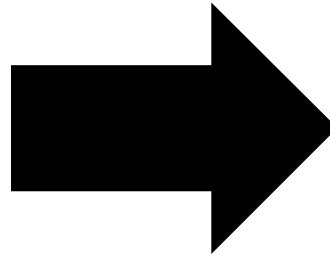
No moving parts

**Driverless,
automated system**

Low energy usage

**Commitment to using
renewable resources**

**Avoids vehicle miles
and idling buses**



**USA'S FIRST ZERO
EMISSION
TRANSPORTATION
SYSTEM**

21st Century Transit

fast

Lightweight, aerospace-like vehicles
defy friction with high acceleration
rates & short trip times



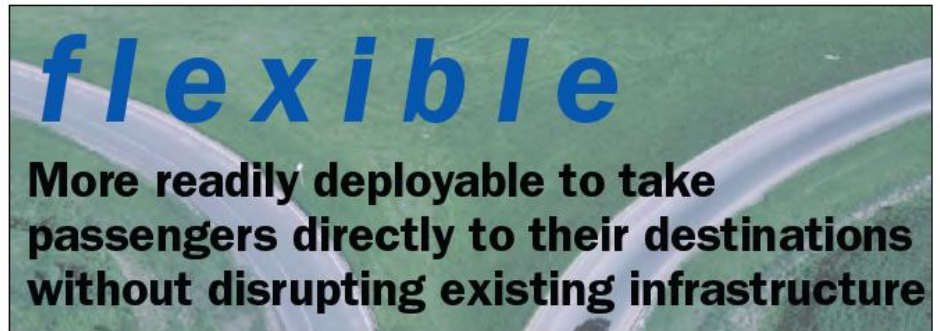
frequent

Fully automated, driverless vehicles
provide tight headways and eliminate
personnel-related delays



flexible

More readily deployable to take
passengers directly to their destinations
without disrupting existing infrastructure

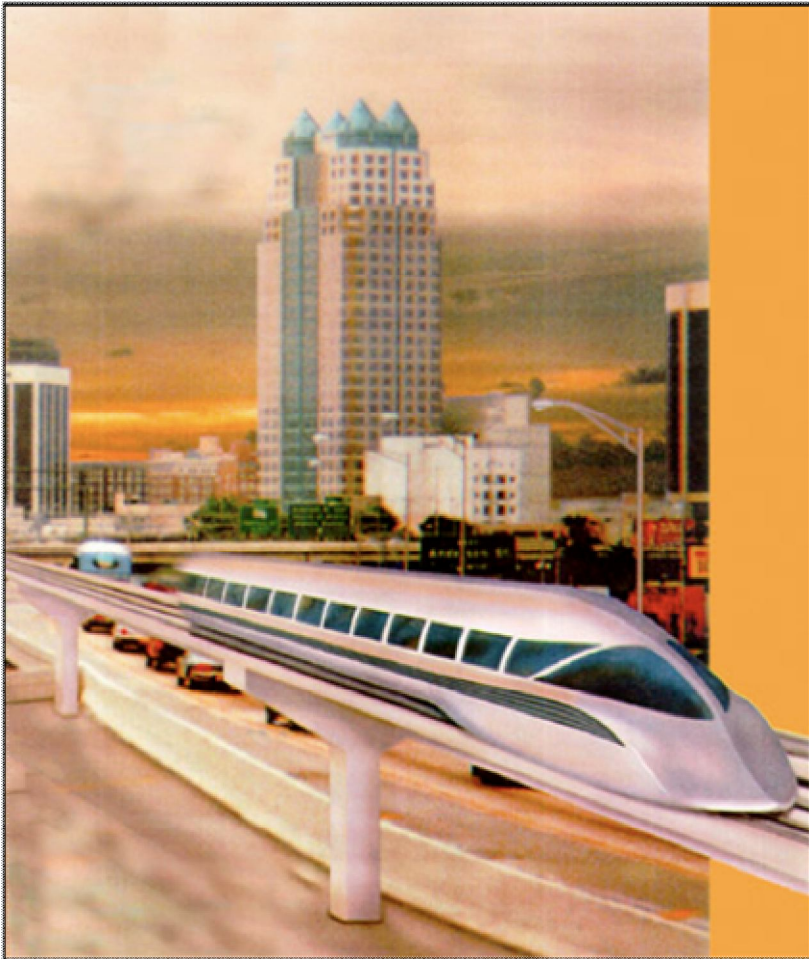


“What Are My Options?”



- The queue forms in DC.
- 1500 miles ahead of you.
- We The People fund 30 miles / yr.
- It will cost \$50 -100M per mile according to FTA.
- DOT pays HALF the capital cost.
- The BEST systems recover half the operating costs.
- A perpetual subsidy.
- DOT pays NONE of that operating subsidy.

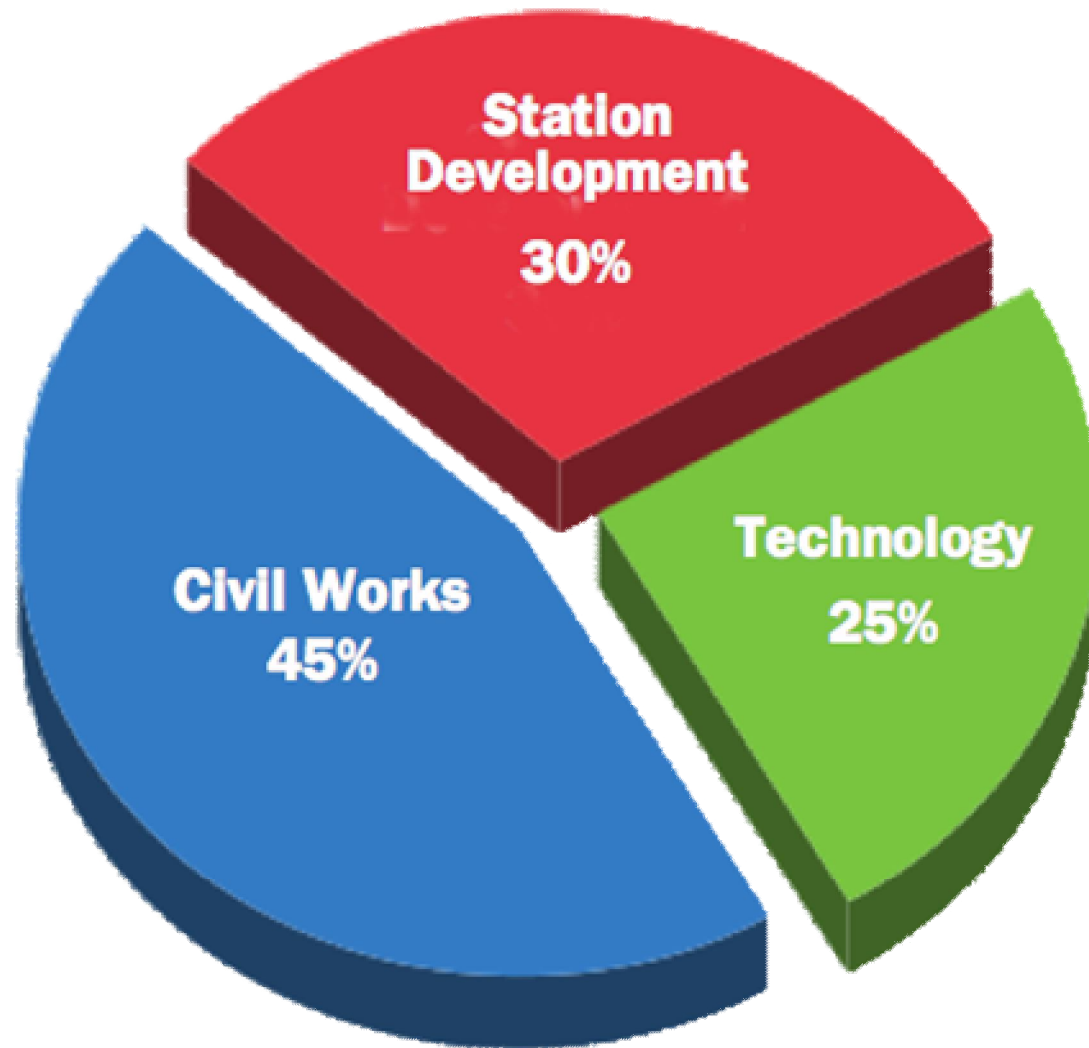
Creating a New Option: **A Sustainable Business Model**



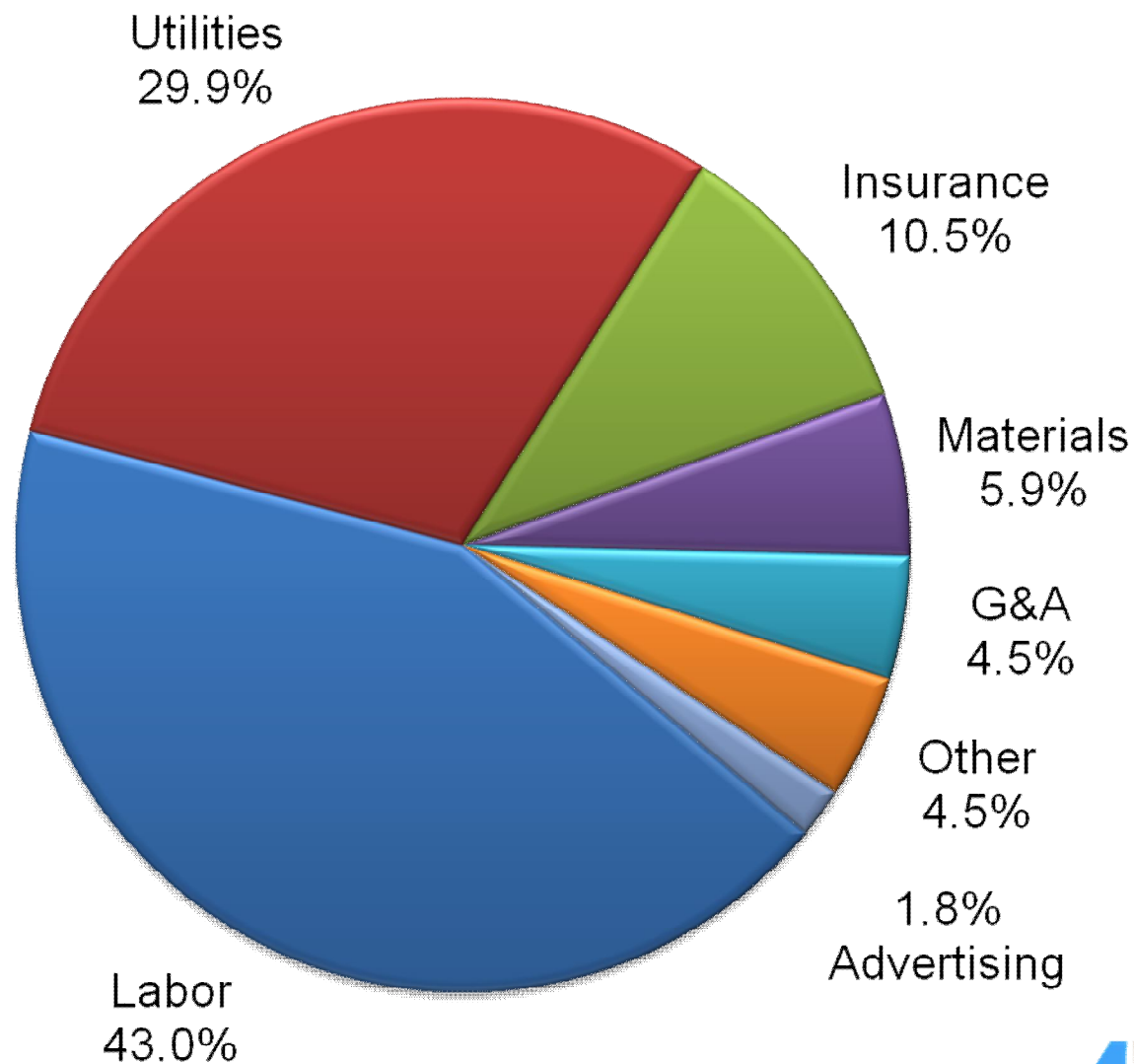
- This is a BUSINESS, not a “project”.
- This is a BUSINESS that doesn’t need long term government subsidies.
- This is a BUSINESS that can ultimately pay its own way.



Financial Breakdown



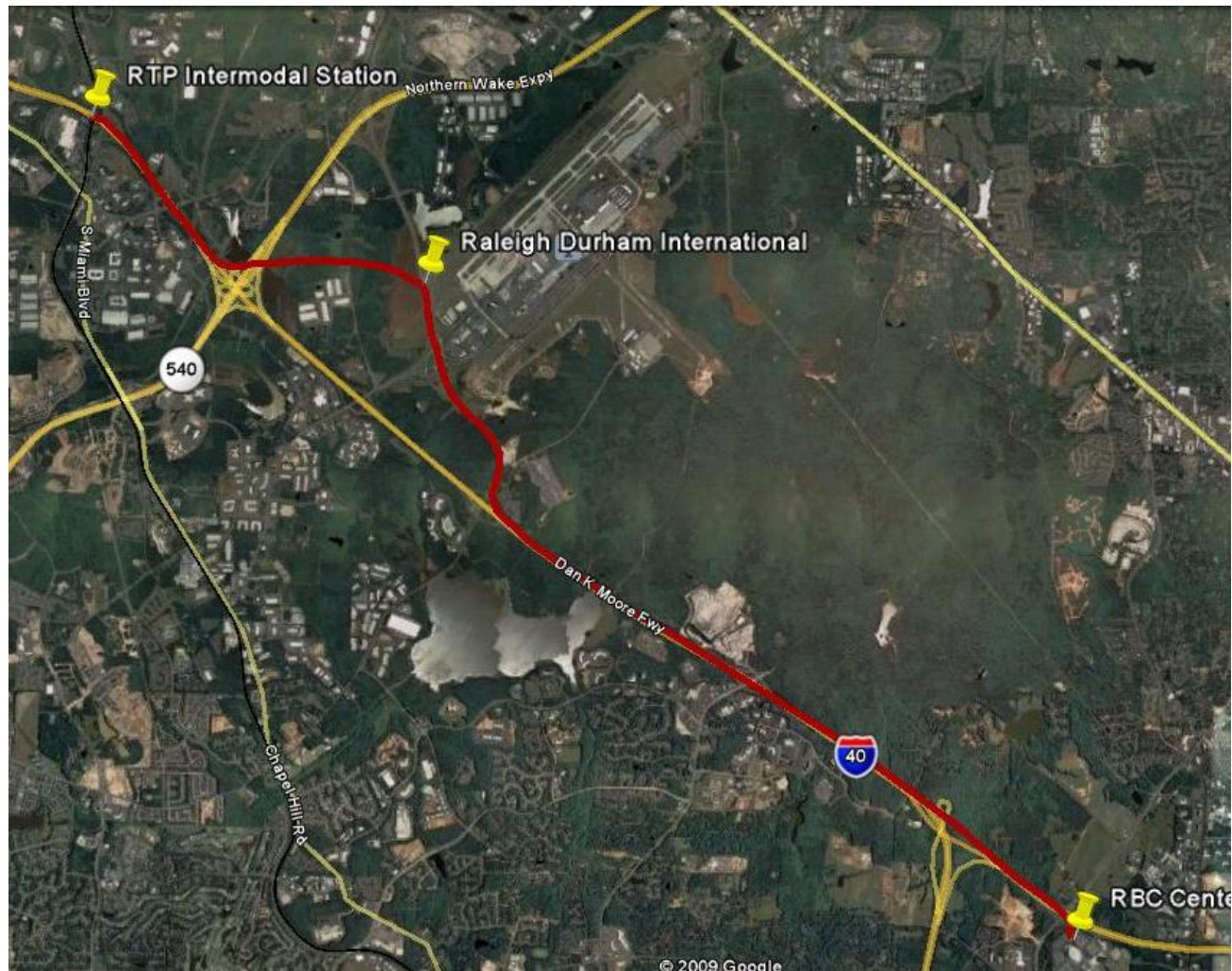
Operating Costs



“One Bite at a Time”



RTP to RDU to RBC



RTP to RDU to RBC

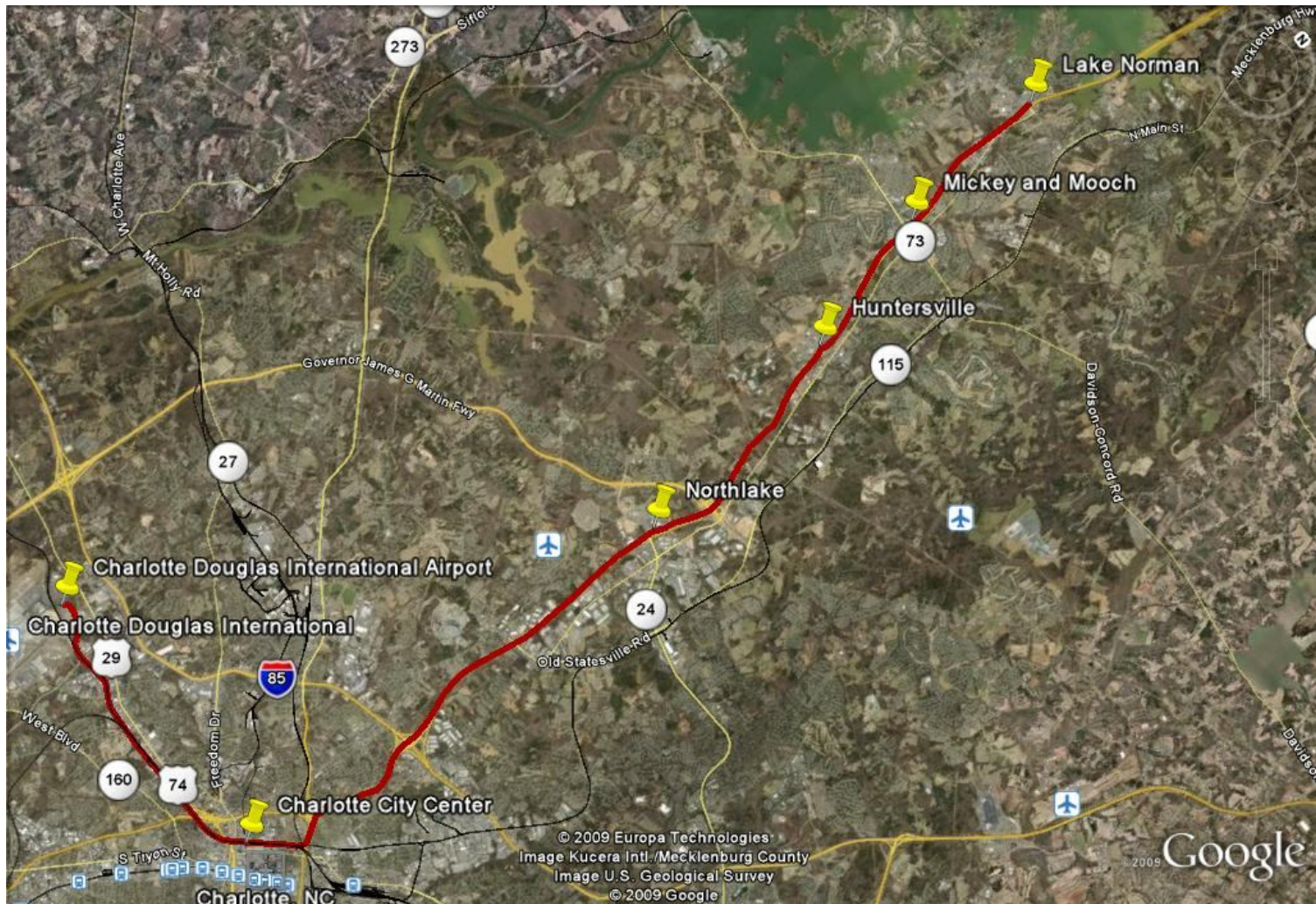
| Finance and Operations | |
|------------------------|-------------------|
| Capital Cost | \$168 million |
| Construction Period | 18 months |
| Passenger Stations | 3 |
| Days of Operation | 365 |
| Hours of Operation | 20 |
| Number of Vehicles | 2 |
| Max. Capacity/ Train | 220 |
| Headways | 6 minutes |
| One-Way Trip Time | 11.75 minutes |
| Peak Hourly Capacity | 2,200 passengers |
| Daily Capacity | 44,000 passengers |
| Annual O&M | \$4.0 million |

Fare is \$2.50

| AMT Service | | | |
|--|---------------------|------------------|-----------------|
| Station Name | Max. Velocity (mph) | Distance (miles) | Trip Time (min) |
| RTP Intermodal Station -> Raleigh-Durham International Airport | 60 | 3.00 | 3.2 |
| Raleigh-Durham International Airport -> RBC Center | 60 | 7.04 | 7.6 |
| Total Trip Time* *(dwell times included) | 11.75 min | | |



Charlotte to Lake Norman



Charlotte Douglas International Airport to Charlotte City Center Station

| Finance and Operations | |
|-------------------------------|-------------------|
| Capital Cost | \$97.2 million |
| Construction Period | 2 years |
| Passenger Stations | 2 |
| Days of Operation | 365 |
| Hours of Operation | 20 |
| Number of Vehicles | 2 |
| Max. Capacity/ Train | 220 |
| Headways | 6 minutes |
| One-Way Trip Time | 6.2 minutes |
| Peak Hourly Capacity | 1,980 passengers |
| Daily Capacity | 39,600 passengers |
| Annual O&M | \$3.5 million |

Fare is \$3 per trip

| AMT Service | | | |
|---|---------------------------|---------------------|-----------------------|
| Station Name | Max. Velocity (mph) | Distance (miles) | Trip Time (min) |
| Charlotte Douglas International Airport -> Charlotte City Center Station | 60 | 2.33 | 5.9 |
| Total Trip Time* *(dwell times included) | 6.2 min | | |

Charlotte City Center Station to Lake Norman

| Finance and Operation | |
|-----------------------|-------------------|
| Capital Cost | \$ 324.2 million |
| Construction Period | 2 years |
| Passenger Stations | 5 |
| Days of Operation | 365 |
| Hours of Operation | 20 |
| Number of Vehicles | 8 |
| Max. Capacity/ Train | 220 |
| Headways | 6 minutes |
| One-Way Trip Time | 22.0 minutes |
| Peak Hourly Capacity | 2,200 passengers |
| Daily Capacity | 44,000 passengers |
| Annual O&M | \$5.0 million |

Fare is \$3 per trip

| AMT Service | | | |
|--|---------------------|------------------|-----------------|
| Station Name | Max. Velocity (mph) | Distance (miles) | Trip Time (min) |
| Charlotte City Center -> Northlake | 60 | 8.97 | 9.5 |
| Northlake -> Huntersville | 60 | 4.25 | 4.8 |
| Huntersville -> Mickey and Mooch | 60 | 2.56 | 3.1 |
| Mickey and Mooch -> Lake Norman | 60 | 2.84 | 3.4 |
| Total Trip Time* *(dwell times included) | 22.0 min | | |



SOURCES OF FINANCING

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graph LR; A[SOURCES OF FINANCING] --- B[Ridership Guarantee]; A --- C[Fare Subsidy]; A --- D[Financial Capital - Debt]; A --- E[Risk Capital - Equity]; A --- F["“HELPS” – Government Grants"]; A --- G["Community Improvement Districts (CIDs) & Redevelopment Areas (CRAs)"]; A --- H[Tax Increment Financing (TIFs)];
```

Ridership Guarantee

Fare Subsidy

Financial Capital - Debt

Risk Capital - Equity

“HELPS” – Government Grants

Community Improvement Districts (CIDs)
& Redevelopment Areas (CRAs)

Tax Increment Financing
(TIFs)

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Ridership Guarantee

In order to meet financial viability, we need a base of riders to cover our costs:

Daily Annual

| | | |
|---------------------------|--------|------|
| • RTP to RBC | 10,000 | 3.6M |
| • CLT to Charlotte | 5,000 | 1.8M |
| • Charlotte to Lk. Norman | 13,500 | 4.9M |

Government must guarantee this number of daily passengers and make up shortfalls .

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System Costs

**Fixed Cost (FC) =
Cost of Debt
Service**

Fixed costs are covered by the guaranteed ridership of minimum annual passengers.

**Variable Cost (VC) =
Cost of Operating &
Maintenance**

Variable costs apply to every passenger.

Fixed Cost (FC) per Passenger

CLT to Charlotte

Debt Service = \$ 7.2 million

Passengers = 1.8 million / year

FC per Passenger = \$4.00

RTP – RDU - RBC

Debt Service = \$12.7 million.

Passengers = 3.6 million / year

FC per Passenger = \$3.53

Additional passengers above 5,000/day in Charlotte and 10,000/day in Raleigh will not have ANY Fixed Cost, until ridership increases so much that additional capacity (vehicles) are needed.

Variable Cost / Passenger (VC)

Charlotte - CLT

O&M Cost = \$3.0 million

Passengers = 1.8 million

VC per Psgr = \$1.67

RTP - RDU - RBC

O&M Cost = \$4.0 million

Passengers = 3.6 million

VC per Psgr = \$1.11

VC is the same for all passengers, regardless of ridership.

Energy and insurance costs are major cost drivers.

Total Cost per Passenger (TC)

$$TC = FC + VC$$

Charlotte -- CLT

FC = \$4.00

VC = \$1.67

TC = \$5.67

(say \$6)

(over 5,000 ppd, TC =
\$1.67)

RTP -- RDU -- RBC

FC = \$3.53

VC = \$1.11

TC = \$4.64

(say \$5)

(over 10,000 ppd, TC =
\$1.11)

Fare Subsidy

The **Charlotte – Airport** project is self supporting at 5,000 passengers per day paying \$6.00 per trip.

The **RTP – RDU – RBC** project is self supporting at 10,000 passengers per day paying \$5.00 per trip.

Fare Subsidy

RTP to RBC

Customers will likely pay \$2.50 per trip to use on a frequent basis.

Providing \$ 2.50 subsidy (\$9M / yr)
lowers fares for customers, gives
incentives to use public transit and invites
additional riders to the System.

Fare Subsidy

CLT to Charlotte

Customers will likely pay \$3.00 per trip to use on a frequent basis.

Providing \$ 3.00 subsidy (\$5.4M / yr)
lowers fares for customers, gives
incentives to use public transit and invites
additional riders to the System.

Subsidy Rebate

The subsidy is NOT required for ridership above minimum daily passengers projections.

As ridership grows, excess revenues will be used to *rebate* a portion of the subsidy back to the government.

- Possible rebate uses:
- System expansions
 - Station amenities
 - Budget shortfalls
 - Community Development

Subsidy Rebate CLT to Charlotte

- Fare minus VC

$$\$3.00 - \$1.67 = \$1.33.$$

- Public and private shares these revenues.
- \$0.67 per psgr applied to Subsidy.
- As Ridership grows from 1.8M to 5.4M (5,000 per day to 15,000 per day), the Subsidy is eliminated.

Public Sector's Role CLT to Charlotte

>15,000 Passengers per Day

- Government receives subsidy rebate
- Rebates can improve QOL for citizens

5,000 – 15,000 Passengers / Day

- Fares not subsidized.
- Subsidy rebate begins
- Fare box pays Variable Costs

0 - 5000 Passengers per Day

- Government must make up shortfalls in ridership.
- Fares are subsidized.

Subsidy Rebate

RTP to RDU to RBC

- Fare minus VC

$$\$2.50 - \$1.11 = \$1.39.$$

- Public and private shares these revenues.
- \$0.70 per psgr applied to Subsidy.
- As Ridership grows from 3.6M to 16.5M (10,000 per day to 45,000 per day), the Subsidy is eliminated.

Public Sector's Role RTP to RDU to RBC

>45,000 Passengers per Day

- Government receives subsidy rebate
- Rebates can improve QOL for citizens

10,000 – 45,000 Passengers/Day

- Fares not subsidized.
- Subsidy rebate begins
- Fare box pays Variable Costs

0 - 10000 Passengers per Day

- Government must make up shortfalls in ridership.
- Fares are subsidized.

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Financial Capital - Debt

80% of Project Capital is Debt:

Charlotte – CLT \$78 million
RTP – RDU – RBC \$138.7 million

- Computations based on 6% interest.
- Government can provide tax waivers on interest earnings similar to the US “Build America Bonds” program.
- Reduction of net interest charges can reduce subsidy. The 35% interest rebate would cut borrowing by \$2M in Charlotte and \$4M in Raleigh, cutting the subsidy.

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Risk Capital - Equity

20% of Project Capital is Equity:

| | |
|------------------|-----------------------|
| Charlotte – CLT: | \$20 million |
| RTP – RDU – RBC: | \$33.4 million |

- IRR must be 12% to attract investment capital in the private sector.
- Government can invest in the project and accept a subordinated rate of return (5%).
- Investors with a preferred return may also be willing to accept a lower rate.

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“HELPS” – Government Grants

- Matching funds for half of the risk capital leverage private capital, improve returns to investors, and help lower subsidy.

Charlotte – CLT \$9 million

RTP – RDU – RBC \$17 million

- A sinking fund of one year's FC and VC that is replenished annually provides comfort to the investment community which could lower rates.

Charlotte – CLT \$10.2 million

RTP – RDU – RBC \$16.7 million

Transit Oriented Development

AMT will request grants for land around station sites for “transit oriented development”.

AMT will develop these areas, increasing the attractiveness of the project to private investors and sparking economic development



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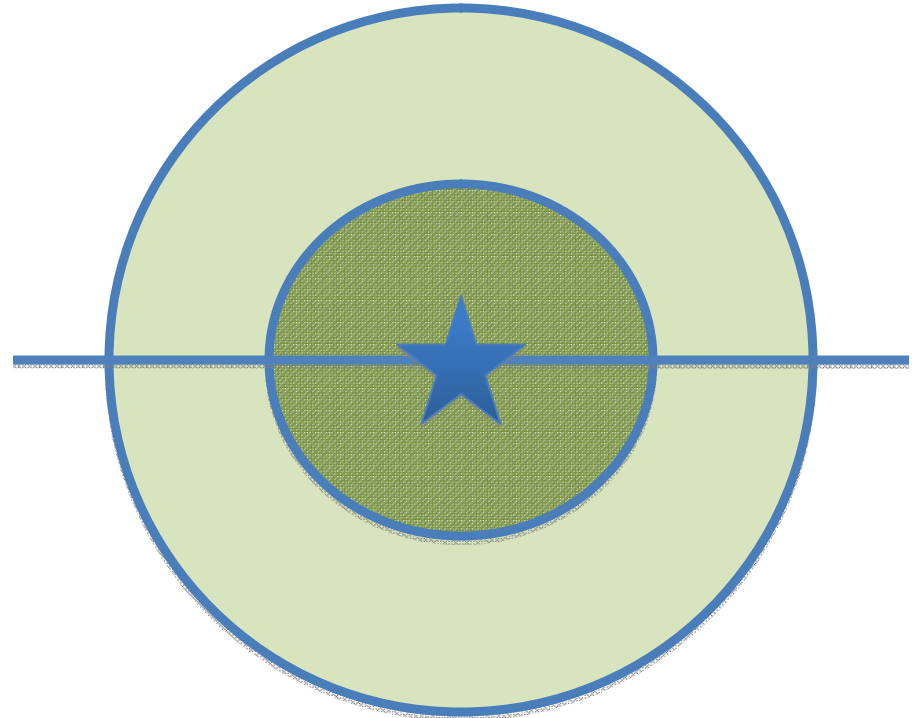
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Tax Increment Financing
(TIFs)

Community Improvement Districts (CIDs)

Legally organized districts established to provide tax funding for stations.

Communities can leverage commercial leaders in the area to contribute to transit Operations & Management, Station Development, increased amenities at stations, etc.



**Those who benefit are those that pay –
THESE AREAS are where development will occur.**

Community Redevelopment Areas (CRAs)

Where is the worst area in the region?

Let's turn it into one of the best.

Incremental changes in property tax collection get returned into the CRA.

These areas will have the best transportation, the best safety and security, growing in value.

Long term, the best schools, healthcare, and public facilities can be created.



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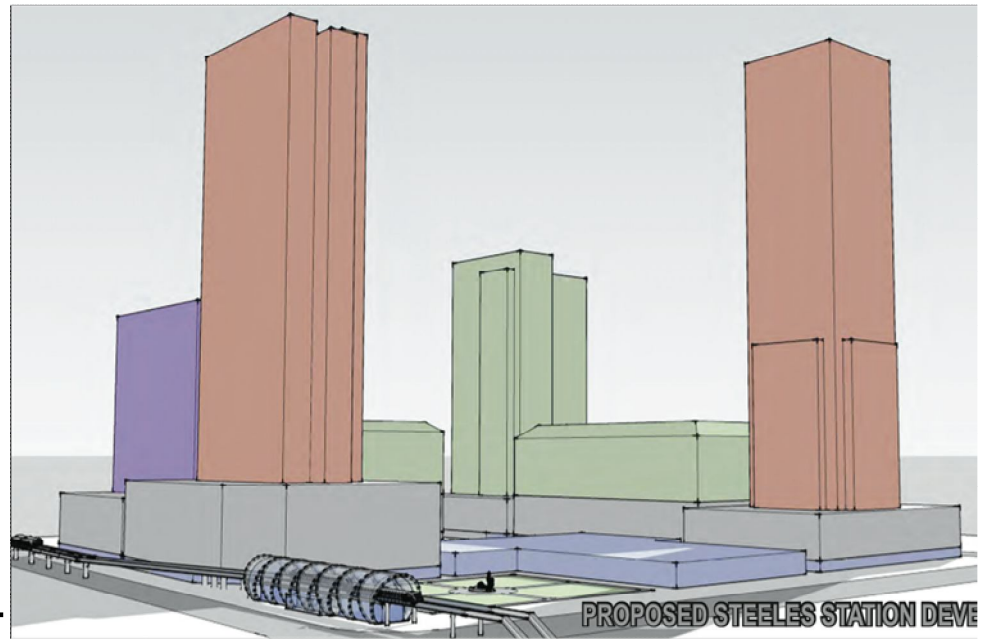
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Tax Increment Financing
(TIEs)

Tax Increment Financing (TIFs)

- Growth from base year accrues to the project and to the area
- A small millage of the property taxes fund stations development.
- Additional redevelopment throughout CIDs and CRAs can be funded or TIFs can be local matching funds for



A Sustainable Business Model

The old way doesn't work anymore.

- There are opportunities to partner to reduce interest, obtain grants, and develop adjacent lands with new projects that can increase ridership and reduce subsidies.
- We offer an appropriate private sector model for new GREEN transit.

